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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/504,816

08/17/2004

Manfred Heim

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01/29/2008

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EXAMINER

BATTULA, PRADEEP CHOUDARY

ART UNIT

PAPER NUMBER

3722

NOTIFICATION DATE

DELIVERY MODE

01/29/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary

Application No.

10/504,816

Applicant(s)

HEIM, MANFRED

Examiner

Pradeep C. Battula

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 and 39-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 and 39-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 18, 2007 has been entered.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the three adjacent dielectric layers having gaps must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9 and 21 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for providing gaps in absorber/dielectric/absorber layers, does not reasonably provide enablement for gaps in four stacked dielectric layers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The specification makes no mention of the gaps in 4 dielectric layers without the presence of absorbing layers and is therefore no sufficient information regarding the subject matter of the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 – 8, 10 – 20, 22 – 27, 29 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonkowski et al. (Bonkowski; U.S. 6,761,959) in view of Howland et al. (Howland; U.S. 6,089,614) and Schmitz et al. (Schmitz; U.S. 6,491,324).

In regards to Claims 1, 18, 31, 33, Bonkowski discloses a security element 30 (Column 6, Line 49; Figure 1B, Item 30) for security documents (Column 8, Lines 56 – 65) wherein the security element is a transfer material to be transferred to a product (Column 3, Lines 10 – 16; Column 8, Lines 66 – 67 --> Column 9, Lines 1 – 14) as well as a multilayer security element (Figure 1B, Item 30) wherein the security element includes a multilayer interference element 16 producing a color shift effect (Column 6, Lines 60 – 67 → Column 7, Lines 1 – 6; Figure 1B, Item 16) and a layer 14 with diffraction structures that at least partly overlaps the interference element Column 6, Lines 65 – 67; Figure 1B, Items 14, 16 – jagged structure is diffraction pattern and 16 clearly overlaps them and directly adjoins), characterized in that the security element is semitransparent (Column 5, Lines 3 – 5, 15 – 65 [The layer 20 has an index of refraction and therefore allows light to pass through and not opaque and therefore at least semi-transparent]; Column 6, Lines 13 – 15) and the diffraction structures (8) directly adjoin the interference element (Figure 1B, Items 14 and 16 and adjoining structures).

Bonkowski does not disclose a particular security document, or semifinished product for producing the security document, comprising a substrate with first and second opposing substrate surfaces and a security element that is so connected with the substrate that it is visually recognizable at least from one of the two substrate surfaces.

Howland discloses security document 1 (Column 6, Line 33; Figure 2, Item 1), or semifinished product for producing the security document, comprising a substrate with first 6 and second 8 opposing substrate surfaces (Column 6, Lines 50 – 55; Figure 2, Items 6, 8) and a security element 5 (Column 6, Lines 40 – 41) that is so connected with the substrate that it is visually recognizable at least from one of the two substrate surfaces (Column 6, Lines 40 – 45; Figure 1, Item 5). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Bonkowski's security element on a document such as Howland's in order to create a security document which is difficult to counterfeit due to the ability of multiple color changes (Column 2, Lines 37 – 39; Bonkowski).

Bonkowski modified by Howland does not disclose the interference element has gaps in at least one layer.

Schmitz discloses providing gaps in a magnetic layer 5 [Layer 22 and 18 of Interference element of Bonkowski is magnetic; Column 6, Lines 8 – 11, Column 5, Lines 3 – 7] that is provided on a security document wherein the gaps 10 are provided in the form of characters (Column 5, Lines 15 – 23; Figure 4, Items 5, 10). Therefore it would have been obvious to a person having ordinary skill in the art at the time the

invention was made to provide the Interference element of Bonkowski modified by Howland with gaps in at least one layer in order to provide an additional security feature since it is only viewable in transmitted light when surrounded by darker elements (Column 5, Lines 21 – 29).

In regards to Claim 2, as applied to Claim 1, Bonkowski modified by Howland and Schmitz further discloses wherein the security element is applied to one of the two substrate surfaces and spans a hole or a transparent area 3 in the substrate (Column 6, Lines 37 – 41; Howland).

In regards to Claims 3 – 5, as applied to Claim 1, Bonkowski modified by Howland and Schmitz further discloses wherein the security element is at least partly embedded, since it can be a security thread, in the substrate (Column 3, Lines 10 – 16; Bonkowski) and spans a hole or a transparent area in the substrate (Column 6, Lines 37 – 46; Howland – teaches of the security element 5 existing on a transparent region and therefore viewable through both sides/areas; Furthermore security threads are always visible on one side/area of a banknote or security document).

In regards to Claims 6 & 19, as applied to Claims 1 & 18, Bonkowski modified by Howland and Schmitz further discloses wherein the interference element is present on a transparent plastic substrate (Column 4, Lines 41 – 50; Bonkowski).

In regards to Claim 7, as applied to Claim 1, Bonkowski modified by Howland and Schmitz further discloses wherein the plastic substrate is colored Column 4, Lines 41 – 50; Bonkowski - substantially transparent shows that there is at least some color to

the substrate and it is well known polycarbonate can have color such as used in sunglasses or tinted glasses wherein the lenses are polycarbonate).

In regards to Claims 8 & 20, as applied to Claims 1 & 18, Bonkowski modified by Howland and Schmitz further discloses wherein the interference element can include a first absorber layer, a dielectric layer adjoining and overlying the first absorber layer and a second absorber layer adjoining and overlying the dielectric layer in a different embodiment (Column 7, Lines 36 – 60; Bonkowski - Further teaches embodiments can have interference above or below substrate 14 as seen in Figures 1A and 1B, Column 6, Lines 59 – 65).

In regards to Claims 10 & 22, as applied to Claims 1 & 19, Bonkowski modified by Howland and Schmitz further discloses wherein the layers constituting the interference element are vapor-deposited (Column 4, Lines 65 – 67, Column 6, Lines 65 – 67 --> Column 7, Line 1; Bonkowski).

In regards to Claims 11 & 23, as applied to Claims 1 & 23, Bonkowski modified by Howland and Schmitz further discloses wherein the interference element has gaps in the form of signs, patterns or encodings (Column 5, Lines 15 – 23; Schmitz).

In regards to Claims 12 & 24, as applied to Claims 6 & 19, Bonkowski modified by Howland and Schmitz further discloses wherein the plastic substrate has the diffraction structures 15 (Column 4, Lines 31 - 33; Figures 1A & 1B, Item 15; Bonkowski).

In regards to Claims 13 & 25, as applied to Claims 1 & 18, Bonkowski modified by Howland and Schmitz further discloses wherein the diffraction structures 15 are

present in a separate layer (Column 4, Lines 31 – 33; Figure 1B, Item 15; Bonkowski – all layers have the structure).

In regards to Claims 14 & 26, as applied to Claims 1 & 18, Bonkowski modified by Howland and Schmitz further discloses wherein the diffraction structures 15 include an embossed relief pattern (Column 4, Lines 31 – 38; Bonkowski).

In regards to Claims 15, 16 & 27, as applied to Claim 1 (15, 16) & 18, Bonkowski modified by Howland and Schmitz further discloses wherein an effect caused by the diffraction structures is visually recognizable from both sides of the security element depending on the way of viewing the security element (Column 7, Lines 1 – 6; Bonkowski – holographic image changes with the way it is viewed and image can be seen from any end).

In regards to Claim 17, as applied to Claim 16, Bonkowski modified by Howland and Schmitz further discloses wherein the effect caused by at least one of the diffraction structures and the color shift effect produced by the interference element are of identical design from both sides of the security element depending on the way of viewing the security element (Column 6, Lines 46 – 53; Bonkowski – angles of incidence or viewing angle from either end will be identical since the light is just hitting a different side but at a similar angle).

In regards to Claim 28, as applied to Claim 18, Bonkowski modified by Howland and Schmitz further discloses the security element in the form of a security thread to be embedded in a security document (Column 3, Lines 10 – 16; Bonkowski).

In regards to Claim 29, as applied to Claim 18, Bonkowski modified by Howland and Schmitz further discloses the security element is a label or patch to be applied to a security document (Column 3, Lines 10 - 16; Column 8, Lines 66 - 67 --> Column 9, Lines 1 - 2).

In regards to Claim 30, as applied to Claim 18, Bonkowski modified by Howland and Schmitz further discloses the security element as a transfer element to be applied to a security document by a transfer method (Column 8, Lines 66 - 67 --> Column 9, Lines 1 - 14; Bonkowski).

In regards to Claim 32, as applied to Claim 31, Bonkowski modified by Howland and Schmitz further discloses the security element, is transferred to the document of value in certain areas (Column 3, Lines 10 - 16; Bonkowski - labels and security threads are in certain areas).

In regards to Claims 39 and 40, as applied to Claim 1, Bonkowski modified by Howland and Schmitz further discloses the security comprising paper of value such as a bank note (Column 3, Lines 12 - 16; Bonkowski).

In regards to Claims 41 & 43, as applied to Claims 11 & 23, Bonkowski modified by Howland and Schmitz further discloses wherein said gaps are present only in one of the layers of the interference element (Figure 4, Items 5, 10; Schmitz).

In regards to Claims 42 & 44, as applied to Claim 41 & 43, Bonkowski modified by Howland and Schmitz further discloses wherein said gaps are in at least one of the absorber layers (Please review the rejections of Claims 8, 11, and 41 where it is

disclose the absorber layer can be a top layer and a material such as this is provided with gaps for security purposes).

In regards to Claims 45 and 46, as applied to Claims 1 and 45, Bonkowski modified by Howland and Schmitz disclose the claimed invention except for the particular range of transparency for the interference element. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the transparency of the interference element under 90 percent or between 80 and 20 percent, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pradeep C. Battula whose telephone number is 571-272-2142. The examiner can normally be reached on Mon. - Thurs. & alternating Fri. 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PCB
Patent Examiner
January 18, 2008


MONICA CARTER
SUPERVISORY PATENT EXAMINER